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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/677,732	10/02/2003	Brian Hernacki	SYMAP032	4884

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EXAMINER	
LEMMA, SAMSON B	

ART UNIT	PAPER NUMBER
2132	

MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/677,732	HERNACKI ET AL.	
	Examiner	Art Unit	
	Samson B. Lemma	2132	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 April 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *04/02/07*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☒ Other: Webpage details of

DETAILED ACTION

1. This office action is in reply to an amendment filed on April 02, 2007.

Claims 1-18 are amended and claim 20 has been canceled. Thus claims **1-19** are pending/**examined.**

Response to Arguments

2. Applicant's remarks/arguments filed on April 02, 2007 have been fully considered but they are not persuasive.

Regarding 35 U.S.C. §101 rejection given to claim 19 Applicant's argued and wrote the following in support of the argument.

"The Examiner has rejected claim 19 under 35 U.S.C. § 101 as being directed to non-statutory subject matter. The rejection is respectfully traversed. MPEP 2106.01 states, "In contrast, a claimed computer-readable medium encoded with a data structure defines structural and functional interrelationships between the data structure and the computer software and hardware components which permit the data structure's functionality to be realized, and is thus statutory." Claim 19 recites, "the computer program product being embodied in a computer-readable medium and comprising computer instructions for..." and it is believed that claim 19 is directed towards statutory subject matter."

Examiner agreed with the applicant's argument however the reason why the 35 U.S.C. §101 rejection was given is just because the limitation recited in the claims does not produce a tangible result and not for the reason argued by the applicant.

Even though the limitation of the respective independent claim 19 is directed to a technological art, environment or machine which would result in a practical application producing **a concrete and useful result,** it does not produce **a tangible result to form the basis of statutory subject matter under 35 U.S.C. 101.**

For instance, if the last limitation in the claim is only generating encryption/decryption key or comparing two results, with out transmitting, displaying or storing or performing some concrete result, by which the result is precisely identified or realized and perceived, the claim language is not generally considered to be producing tangible result.

By the same token, the last limitation recited in the respective independent claim 19, "opening the covert service channel on the target host to allow a connection with the remote host" is not producing a tangible result, unless and otherwise the final limitation of the claim is somehow **transmitting, storing or displaying, some concrete result. In other words the final limitation in the claim language has to be something, which is capable of being precisely identified or realized and perceived.**

Regarding to the rejection given to the respective independent claims 1, 11, 16-19 applicant's traversed the rejection and wrote the following in support of the argument.

> *"As amended, claim 1 recites "remotely activating a covert service channel" and "opening the covert service channel." Support for the amendment can be found, without limitation, at page 6 line 11. Conventional authentication techniques "provide an opportunity for an unauthenticated client or attacker to access a client" because they allow an attacker to "know[] that a service or set of services is exposed and can be attacked. Many attackers begin by probing or scanning for systems and services." (Application, page 1 line 15 to page 2 line 9.) In contrast, a covert service channel is one "effectively hidden from random port scanners." (Application, page 16 lines 4 to 19.) Dalgic and Tonnby describe conventional authentication techniques and do not disclose "remotely activating a covert service channel" as recited in amended claim 1. Claim 1 is therefore believed to be allowable."*

Examiner disagrees with the above argument.

Examiner would point out that neither page 1 lines 15 to page 2 line 9, nor page 16, lines 4 to 19, recites "covert service channel" as argued by applicant's.
On page 16, lines 20-22, of applicant's disclosure the following has been disclosed which could be interpreted as a channel which is "effectively hidden from random port scanners"
"If trigger 210 is not authenticated, then the port that trigger 210 was received on remains closed (408). If trigger 210 is authenticated, the port and passively wait for a connection request from authenticated remote client 206 (410)."

However unlike applicant's above argument about the "covert service channel", based on the definition provided on the web and on the Patent application Patent No. 5,574,912, date of patent Nov 12, 1996 by Hu et al on column 3, lines 19-25, **a "covert channel" in a computer system is a communication channel that allows one or more processes operating in a computer system (e.g., one or more programs) to transfer information in a manner that violates the system's security policy, e.g., to transfer information to unauthorized users."**

Therefore the introduction of this term, "covert service channel" does not change the scope of the claim. Applicant's however could incorporate what is cited on page 16, lines 20-22 to explicitly indicate how the channel protect itself form from attackers probing or scanning the systems or services or how the channel is effectively hidden from random port scanners." In other words since the actual conventional meaning/definition of "covert service channel" differs from what is taught to be incorporated in the independent claims further amendment is required.

Furthermore **according to the above definition** the art/s on the record discloses each and every limitation recited in the respective independent claims. For instance, regarding the respective independent claims 1, 11, 16-19, **Dalgic discloses a method for remotely activating a covert service channel comprising:**

- **Using a transport mechanism to send a trigger from a remote client to a host; [column 7, lines 6-8]** *(wherein said hub/switch is for detecting a connection to a portable computer system and for performing authentication in response thereto);*
- **Receiving the trigger; [Column 7, lines 9-11]** *(wherein said cradle is for receiving user authentication data from said portable computer system and transmitting said user authentication data to said server);*
- **Authenticating the trigger; and opening the covert service channel to allow a connection with the remote host. [Column 7, lines 12-20]** *(wherein said server is for **opening a port on** said hub/switch allowing said ethernet phone to communicate voice data over said LAN and also allowing said cradle access to said LAN **provided said authentication is successful** and otherwise for causing said hub/switch to block said ethernet phone and said cradle from accessing said LAN and said server for closing said port in response to detecting operational variations that are unfamiliar to said LAN.)*

Thus, it has been found that the present amendment made does not basically change the scope of the independent claims and is something, which is already disclosed, by the references. Therefore the rejection is maintained till applicant further amend at least the independent claims and successfully overcome the ground of rejection set forth in the office action.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. **Claims 19** is rejected under 35 U.S.C. 101 because the subject matter is directed to non-statutory subject matter.

5. **Claim 19** is directed **to a computer program product for remotely activating a covert service channel.** Though the computer program product is being embodied in the computer readable medium, the examiner asserts that the last limitation of the above claim, in particular "**opening the covert service channel on the target host to allow a connection with the remote host**" is not **producing tangible result** to form the basis of statutory subject matter under 35 U.S.C. 101. See MPEP § 2106 IV. B. 1(a). Therefore the claim **is a program per se** and does not fall within the statutory classes listed in 35 USC 101.

Even though the limitation of the respective independent claim 19 is directed to a technological art, environment or machine which would result in a practical application producing **a concrete and useful result,** it does not produce **a tangible result to form the basis of statutory subject matter under 35 U.S.C. 101.**

For instance, if the last limitation in the claim is only generating encryption/decryption key or comparing two results, with out transmitting, displaying or storing or performing some concrete result, by which the result is precisely identified or realized and perceived, the claim language is not generally considered to be producing tangible result.

By the same token, the last limitation recited in the respective independent claim 19, "opening the covert service channel on the target host to allow a connection with the remote host" is not producing a tangible result, unless and otherwise the final

limitation of the claim is somehow **transmitting, storing or displaying, some concrete result. In other words the final limitation in the claim language has to be something, which is capable of being precisely identified or realized and perceived.**

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. **Claims 1, 11, 16-19** are rejected under 35 U.S.C. 102(e) as being anticipated by **Dalgic et al** (hereinafter refereed as **Dalgic**) (U.S. Patent No. 7,024,478) (Filed on August 14, 2000)

8. As per independent claims 1, 11, 16-19 Dalgic discloses a method for remotely activating covert service channel comprising:

- **Using a transport mechanism to send a trigger from a remote client to a host; [column 7, lines 6-8]** *(wherein said hub/switch is for detecting a connection to a portable computer system and for performing authentication in response thereto);*

- **Receiving the trigger; [Column 7, lines 9-11]** *(wherein said cradle is for receiving user authentication data from said portable computer system and transmitting said user authentication data to said server);*

- **Authenticating the trigger; and opening the covert service channel to allow a connection with the remote host. [Column 7, lines 12-20]** *(wherein said server is for **opening a port on** said hub/switch allowing said ethernet phone to communicate voice data over said LAN and also allowing said cradle access to said LAN **provided said authentication is successful** and otherwise for causing said hub/switch to block said ethernet phone and said cradle from accessing said LAN and said server for closing said port in response to detecting operational variations that are unfamiliar to said LAN.)*

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. **Claims 2-10 and 12-15** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Dalgic et al** (hereinafter refereed as **Dalgic**) (U.S. Patent No. 7,024,478) (Filed on August 14, 2000) in view of **Tarquini et a**l (hereinafter refereed as **Tarquini**) (U.S. Publication No. 2003/0101353) (Filed on October 31, 2001)

11. **<u>As per dependent claims 2-10 and 12-15</u> Dalgic discloses a method for remotely activating a covert service channel comprising:**

- **Using a transport mechanism to send a trigger from a remote client to a host; [column 7, lines 6-8]** *(wherein said hub/switch is for detecting a connection to a portable computer system and for performing authentication in response thereto);*
- **Receiving the trigger; [Column 7, lines 9-11]** *(wherein said cradle is for receiving user authentication data from said portable computer system and transmitting said user authentication data to said server);*
- **Authenticating the trigger; and opening the covert service channel to allow a connection with the remote host. [Column 7, lines 12-20]** *(wherein said server is for **opening a port** on said hub/switch allowing said ethernet phone to communicate voice data over said LAN and also allowing said cradle access to said LAN **provided said authentication is successful** and otherwise for causing said hub/switch to block said ethernet phone and said cradle from accessing said LAN and said server for closing said port in response to detecting operational variations that are unfamiliar to said LAN.)*

Dalgic does not explicitly disclose the method remotely activating the covert service channel, using a transport mechanism to send a trigger further includes using a protocol to format the transport mechanism.

Furthermore Dalgic does not disclose remotely activating a service channel as recited wherein opening the covert service channel on the host further includes sending a reply to the remote client.

However, in the same field of endeavor **Tarquini**, discloses the feature of remotely activating the covert service channel, using a transport mechanism to

send a trigger further includes using a protocol to format the transport mechanism. **[See the feature of NMAP, paragraph 0043-0046]**

Furthermore, **Tarquini**, discloses the feature of remotely activating a covert service channel as recited wherein opening the service channel on the host further includes sending a reply to the remote client, and the rest of the features recited in the dependent claims.**[See the feature of NMAP, paragraph 0043-0046]**

It would have been obvious to one having ordinary skill in the art, at the time the invention was made, to combine the basic feature of Nmap as per teachings of **Tarquini**,into the method taught by **Dalgic** in order to detect intrusion at a node. **[See abstract, Tarquini]**

12. **Claims 1, 11, 16-19** are also rejected under 35 U.S.C. 102(e) as being anticipated by **Tonnby et al** (hereinafter refereed as **Tonnby**) (U.S. Publication No. 2005/0163131 A1) (Filed on 01/7/2003)

13. **As per independent claims 1, 11, 16-19 Tonnby discloses a method for remotely activating a covert service channel comprising:**

- **Using a transport mechanism to send a trigger from a remote client to a host; Receiving the trigger; Authenticating the trigger; and opening the covert service channel to allow a connection with the remote host. [Paragraph 0119]** (*For the handler of mobile service agents to determine if the user is allowed to attach at a new user port various methods can be used to ensure the authenticity of the roaming device. For wired scenarios, where a user disconnects the Ethernet wire and reconnects it at another port it may suffice that it is checked that the device MAC address is no longer connected to the previous user port. However in general, and in particular when using WLAN access methods a more secure method is needed.* ***To achieve this, an***

authentication procedure, such as described in [4] is triggered by the handler of mobile service bindings, and only upon successful authentication the penult is informed to open the user port for the mobile service binding.)

14. **Claims 2-10 and 12-15** are also rejected under 35 U.S.C. 103(a) as being unpatentable over **Tonnby et al** (hereinafter refereed as **Tonnby**) (U.S. Publication No. 2005/0163131 A1) (Filed on 01/7/2003) in view of **Tarquini et a**l (hereinafter refereed as **Tarquini**) (U.S. Publication No. 2003/0101353) (Filed on October 31, 2001)

15. **As per dependent claims 2-10 and 12-15 Tonnby discloses a method for remotely activating a covert service channel comprising:**

- **Using a transport mechanism to send a trigger from a remote client to a host; Receiving the trigger; Authenticating the trigger; and opening the covert service channel to allow a connection with the remote host. [Paragraph 0119]** (*For the handler of mobile service agents to determine if the user is allowed to attach at a new user port various methods can be used to ensure the authenticity of the roaming device. For wired scenarios, where a user disconnects the Ethernet wire and reconnects it at another port it may suffice that it is checked that the device MAC address is no longer connected to the previous user port. However in general, and in particular when using WLAN access methods a more secure method is needed.* ***To achieve this, an authentication procedure, such as described in [4] is triggered by the handler of mobile service bindings, and only upon successful authentication the penult is informed to open the user port for the mobile service binding.)***

Tonnby does not explicitly disclose the method remotely activating the covert service channel, using a transport mechanism to send a trigger further includes using a protocol to format the transport mechanism.

Furthermore Tonnby does not disclose remotely activating a covert service channel as recited wherein opening the service channel on the host further includes sending a reply to the remote client.

However, in the same field of endeavor Tarquini, discloses all the feature of remotely activating the covert service channel, using a transport mechanism to send a trigger further includes using a protocol to format the transport mechanism. **[See the feature of NMAP, paragraph 0043-0046]** Furthermore, **Tarquini**, discloses the feature of remotely activating a covert service channel as recited wherein opening the covert service channel on the host further includes sending a reply to the remote client, and the rest of the features recited in the dependent claims.**[See the feature of NMAP, paragraph 0043-0046]**

It would have been obvious to one having ordinary skill in the art, at the time the invention was made, to combine the basic feature of Nmap as per teachings of **Tarquini**,into the method taught by **Tonnby** in order to detect intrusion at a node. **[See abstract, Tarquini]**

Conclusion

16. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Samson B Lemma whose telephone number is 571-272-3806. The examiner can normally be reached on Monday-Friday (8:00 am---4: 30 pm).

If attempts to reach the examiner by telephone are unsuccessful; the examiner's supervisor, BARRON JR GILBERTO can be reached on 571-272-3799. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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